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ENGINEERING REPORT

ENGINEERING STATEMENT SUPPORTING CHANNEL 6 WAIVER

W06DA-D, Aguada, PR, channel 6 digital (license and CP) has transmitter sites that are located less than 40 kilometers from the proposed LPFM transmitter site. This distance is within the Section 73.825 restriction distance for channel 207 (91 km).

Related Section 73.525 (for primary FM) protects full-power channel 6 stations from full-service FM stations proposing service in the reserved FM band (channels 201 to 220). Because these rules are based on protection to analog TV, a waiver request is made for this application regarding Section 73.825 that relates to LPFM..

For an upper first-adjacent channel causing interference to a lower channel VHF TV, the previous TV analog undesired-to-desired ("U/D") level were those levels above +12 dB. That standard of U/D ratio adjacent-channel interference into a digital VHF TV channel is now +49 dB. Therefore, the adjacent-channel interference to a VHF TV station improved by 37 dB for the change from analog TV to digital TV.

The F50,50 contour level of W06DA-D (for both the licensed and CP facility) is greater than 60 dBu in the Ponce area around the LPFM site. When an adjustment of 37 dB is made to the protection ratio for a Section 73.525 study (and to the applicable charts of Section 73.599), the amount of predicted interference based on this rule section is reduced significantly. The adjusted U/D protection ratio in this instance (to protect WPVI-TV) would increase to +58 dB (from +21 dB for FM channel 207). (The interfering signal must be 51 dB stronger than that of the TV signal before interference occurs based on this 30 dB adjustment.) Such an interfering signal (above 118 dB) will not reach 2 meters above ground level from the proposed LPFM antenna.

Based on the above, a rule waiver of Section 73.825 is requested.